United States Patent [19]

Cooke

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[54] **SKI SECURITY SYSTEM**

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[51] **Int. Cl.**[4] **A63C 11/00**

[52] **U.S. Cl.** ..... **280/820;** 70/333 A

[58] **Field of Search** ..... 280/814, 820; 70/50, 70/57, 59, 333 A

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,335,585	3/1965	Stratton	280/814
4,354,367	10/1982	Wahl	70/333 A

Primary Examiner—David M. Mitchell
Assistant Examiner—Richard M. Camby
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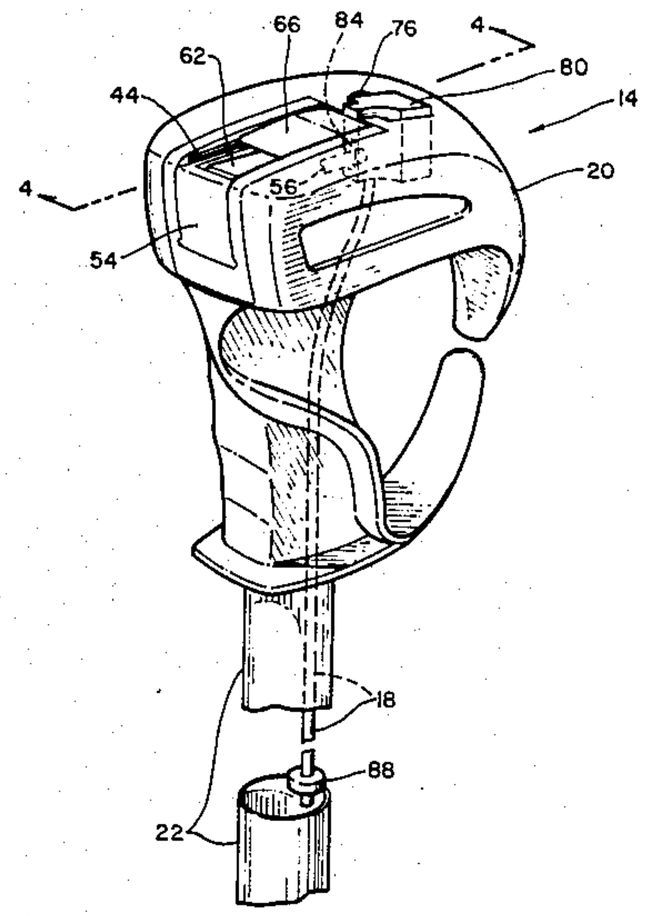
[57] **ABSTRACT**

A security system is provided for locking ski equipment, including skis and ski poles, to each other and to a fixed anchor, the security system being part of the ski pole equipment itself. This is accomplished using a ski pole with a handle which carries a locking mechanism, and a hollow shaft which carries a flexible security line. The locking mechanism includes a double locking system which prevents release of the security line until both a first lock (preferably of the combination type) and an integrated second mechanical lock have both been positively activated by the user. The locks are designed and located for easy access and are positively controlled to release or limit the movement of the security line, preferably without a separate key. The flexible security line which is held in the shaft of the pole is capable of being removed from the shaft to form a security loop by which the pole and other articles strung on or encircled within the security loop may be connected to a fixed anchor in order that falling, movement and theft of the pole and other strung on or encircled articles can be avoided.

11 Claims, 7 Drawing Figures



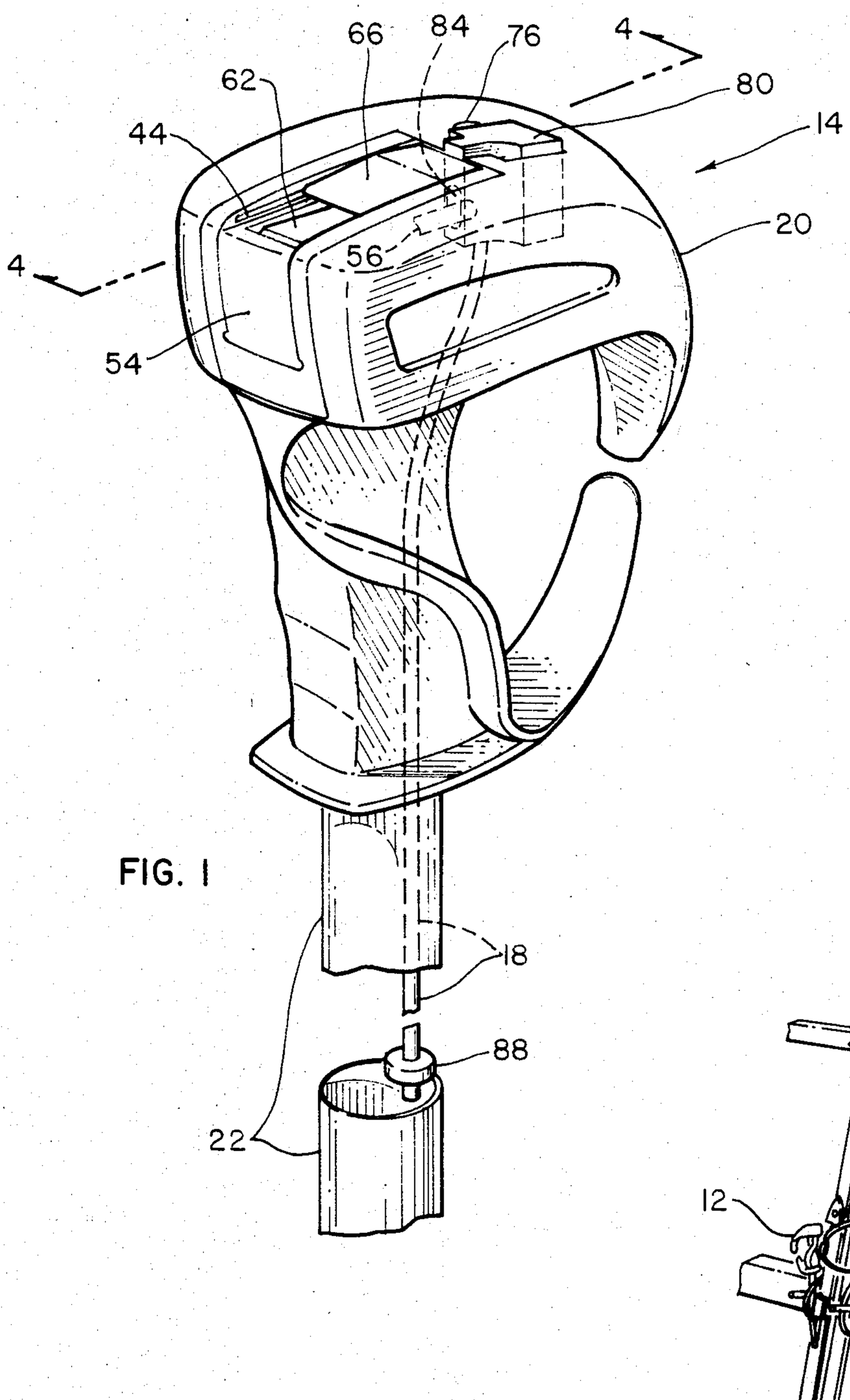


FIG. 1

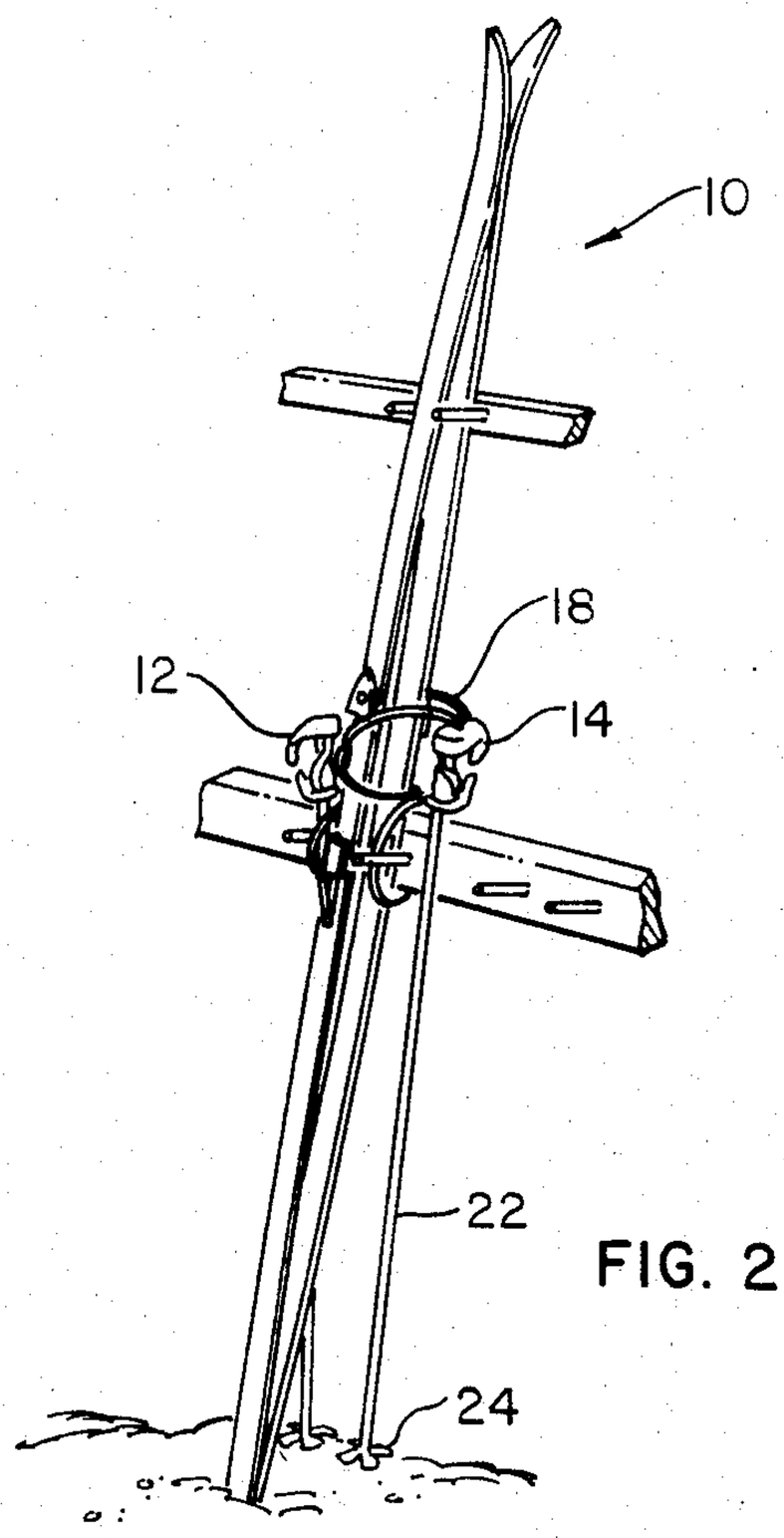


FIG. 2

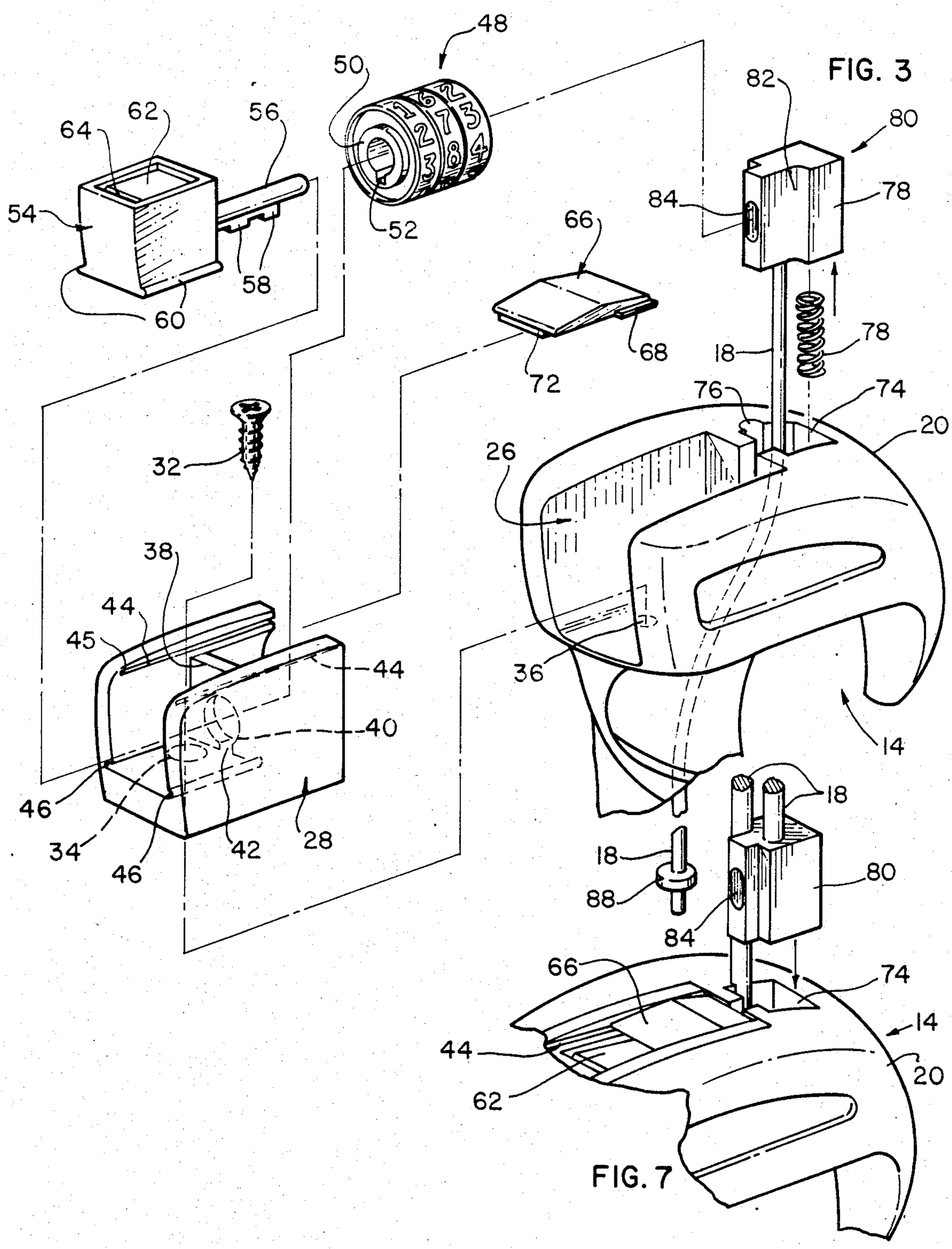

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FIG. 3

FIG. 7

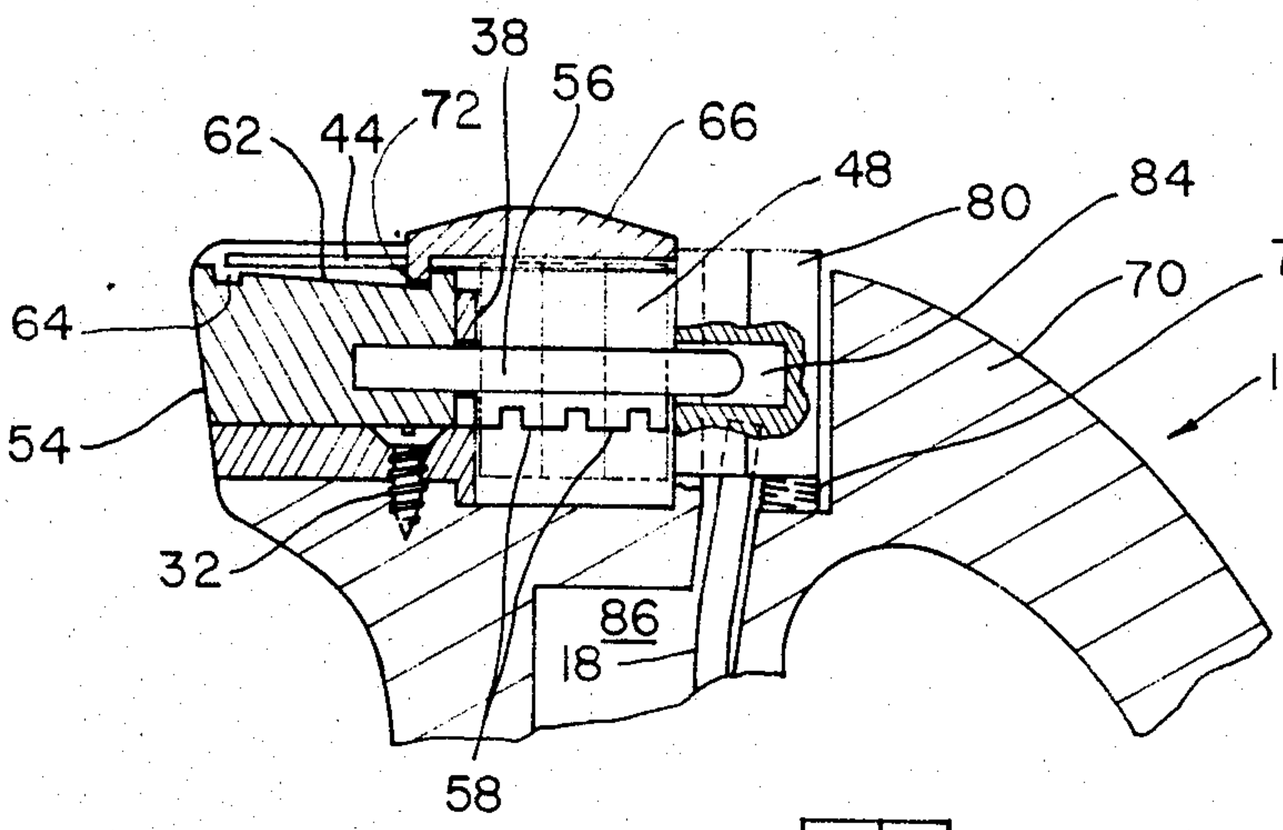

FIG. 4

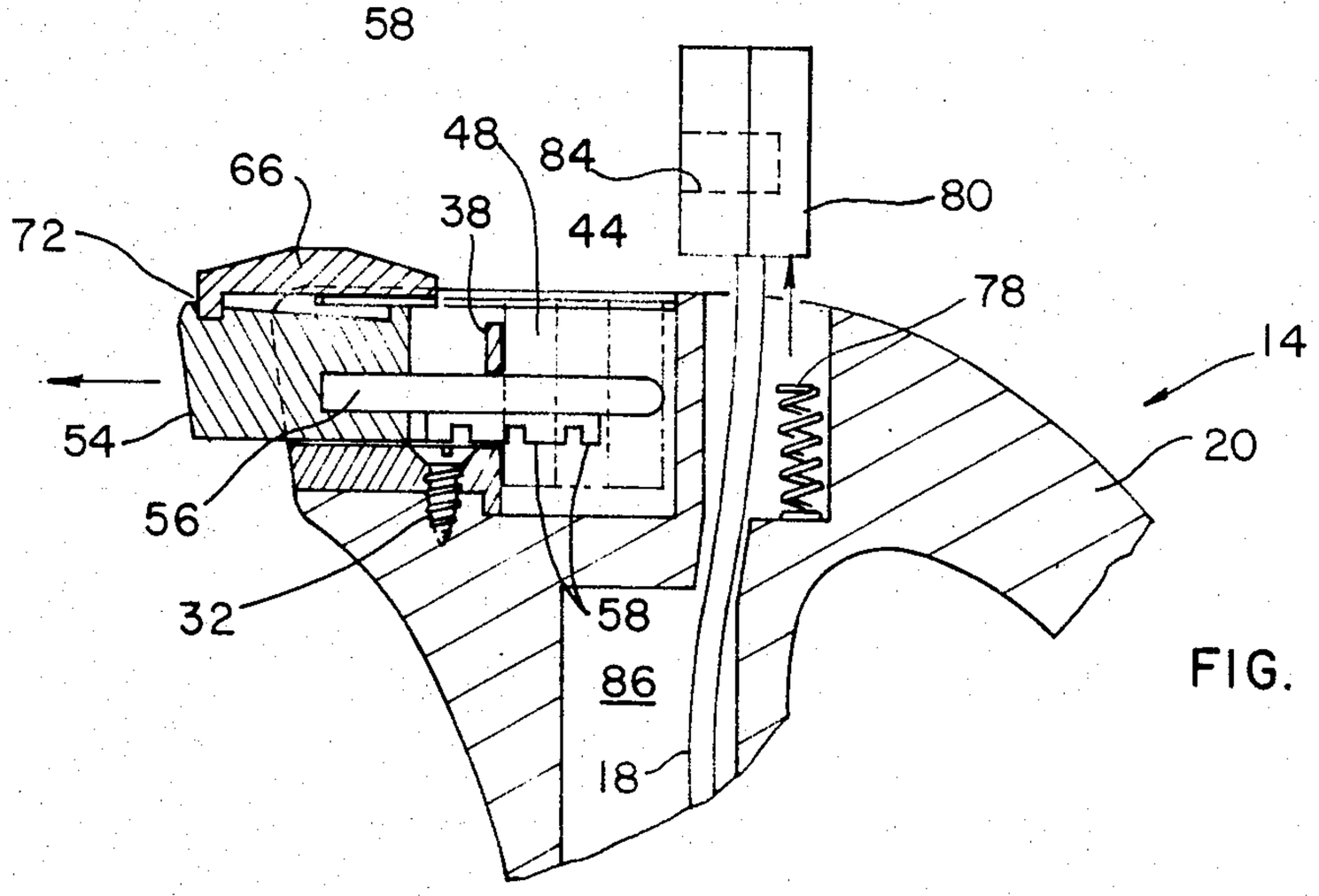

FIG. 6

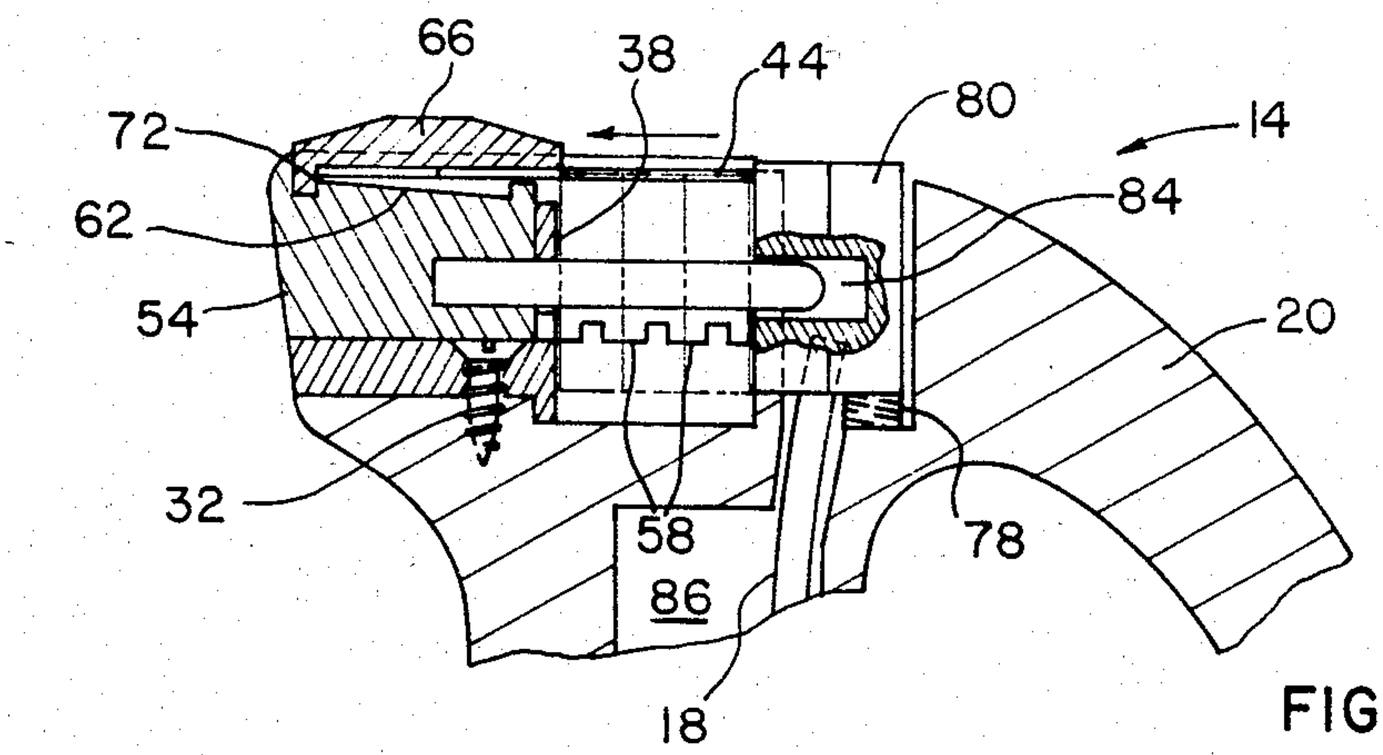

FIG. 5

SKI SECURITY SYSTEM

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a new and useful ski pole and locking device combination which is designed to deter theft of the pole and other articles connected thereto. More particularly, it relates to the combination of a ski pole which incorporates a security line and a double locking mechanism suitable for securing and locking ski equipment together and to a convenient fixed anchor.

2. Description of the Prior Art

In recent years, there has been a substantial increase in interest and activity in the sport of skiing. During the same period, ski equipment, such as skis, bindings, and poles have become more sophisticated and more expensive. With this increase in interest and in the cost of ski equipment, there has also been a concommittant increase in theft of the ski equipment at ski areas or wherever the equipment may be left unattended.

In the normal course of a day's skiing, a skier is usually required to leave his ski equipment unattended while he enters a ski area building to eat, to warm himself, to purchase other equipment or to otherwise avail himself of the comforts provided within such buildings. At such times, skis and poles are generally placed in a vertical position on a rack, or, under crowded circumstances, against a building, against a tree, or forced tail first into the snow. When equipment is thus left unattended, there is usually a concern experienced by the skier that when he returns, his equipment will have been knocked over and damaged, or moved, thus making it difficult to find, or stolen. Sometimes a skier will separate his skis and poles or form a mixed pair with a companion on the assumption that a thief will not steal a single ski or an unmatched pair. This form of safeguard still subjects the skis to being knocked down or moved, and may also be defeated by a vigilant or lucky thief.

At most ski areas, coin operated lockers or racks with lock assemblies can be rented for storage of skis during indoor breaks. This, however, can be inconvenient, in terms of having the right change, and expensive if the skier takes frequent breaks or is responsible for the equipment of a number of family members or companions.

Various portable locking devices are available which may be carried by a skier. However, due to the already great weight of the ski equipment and/or the bulk of the skier's clothing, such as gloves and parkas, most skiers would prefer not to have to carry any separate or additional equipment. As may be appreciated, these separate locking devices have the added disadvantage of consuming space in the skier's pockets or pack and may also provide a potential for injury to the skier if he falls on the device.

Therefore, due to the inadequacies of existing equipment, hundreds of thousands of skiers on millions of ski trips a year assume the risk that their equipment may be damaged, misplaced or stolen.

The problems of ski equipment security and of the then state-of-the-art is further discussed in Quigg U.S. Pat. No. 3,354,675. **I The various reference patents cited in Quigg and the following additional U.S. Patents disclose several types of security devices or locks which have been corporated into ski poles: Schwedt, et al U.S. Pat. No.** 3,297,333; Stratton U.S. Pat. No. 3,335,585; Brimhall U.S. Pat. No. 3,899,904; and Aylesworth U.S. Pat. No. 4,267,715. These references, the references cited in them, and the following additional patents relating to lock mechanisms of the type which includes some sort of security line, serve the purpose of putting the present invention into proper perspective relative to the prior art: Richardson U.S. Pat. No. 563,414; Goodridge U.S. Pat. No. 1,724,835; Gordon U.S. Pat. No. 2,186,456; Bagnall, Jr. U.S. Pat. No. 2,457,195; Pennington U.S. Pat. No. 2,488,984; Stue U.S. Pat. No. 2,508,302; and Swiss Pat. No. 243,551.

Of these references, Stratton, Quigg, Brimhall and Aylesworth all specifically disclose ski equipment security systems which include a security line (usually a flexible steel cable) which is carried in the hollow shaft portion of a ski pole. These references all provide for some means to allow or cause the security line to be removed from the pole and also provide a locking mechanism in the pole grip or on the pole shaft to secure the free end of the security line after it has been looped around and through skis, the other pole, and a fixed anchoring structure such as a rack, a tree, a rail or the like. More specifically, Stratton and Brimhall (at its FIG. 3) disclose systems in which the ski pole grip carries a cylindrical combination lock, and in which further the free end of the security line is inserted into an existing hollow portion of the cylindrical lock. In these latter two references, there is little more than an aggregation of a lock-security line and a pole for purposes of convenience, with little cooperation between the pole and the lock-security line system. Additionally, when the systems of Stratton and Brimhall (at its FIG. 3) are unlocked by operating their combination locks, they are subject to immediate release of the security line. Such uncontrolled release can result in a skier operating the combination and having the security line system release from the lock under the weight of the equipment with the potential for the equipment to fall and injure the skier or damage itself.

The present invention provides a simple, effective security system for locking ski equipment, including skis and ski poles, to each other and to a fixed anchor. It provides the foregoing security system as part of the ski pole equipment itself. In preferred embodiments, a lock, a flexible security line and ski pole combination is provided in which the lock includes a double locking system which prevents release of the security line until both a first and a second lock have been positively activated by the user.

The system is designed so that the ski pole shaft carries in combination the flexible security line, with a first lock of the combination type integrated with a second mechanical lock, both locks being incorporated in the handle or grip of the ski pole. The locks are designed and located for easy access and are positively controlled to release or limit the movement of the security line, preferably without a separate key. As noted above, the flexible security line is normally held in the shaft of the pole and is capable of being removed from the shaft to form a loop by which the pole and other articles strung on or encircled within the loop may be connected to a fixed anchor in order that falling, movement and theft of the pole and other strung on or encircled articles can be avoided. Additionally, the free end of the flexible security line which is removed from the pole carries a portion of a locking mechanism positioned and designed for positive, controlled, releasable

locking engagement with another portion of the locking mechanism which is located within the pole grip.

The combination of a first lock, a second lock, a security line and a ski pole, in accordance with the present invention, is characterized by economy of manufacture, simplicity of operation, and controlled release.

Accordingly, it is an object of this invention to provide a simple yet effective device for securing and locking ski equipment, including skis and ski poles, to each other and to a fixed anchor.

Another object of this invention is to provide the foregoing as part of the ski pole equipment itself.

A further object of this invention is to provide a lock, a security line and ski pole combination in which the lock includes a double locking system which prevents release until both a first and a second lock have been positively activated by the user.

In one preferred aspect thereof, the combination of a first lock, a second lock, a security line and a ski pole in accordance with the present invention are characterized by economy of manufacture, simplicity of operation, and controlled release.

Another object of the present invention is to provide in combination a ski pole in which a security line is carried, and a first lock of the combination type is integrated with a second mechanical lock, and that both locks are incorporated in the pole handle or grip of the ski pole and available for easy access and positive controlled release of the security line without a separate key.

A still further object of the invention is to provide a structure as above characterized, that includes a flexible security line which is normally held in the shaft of the pole and capable of forming a loop by which the pole and other articles strung on or encircled within the loop may be connected to a fixed anchor in order that falling, movement and theft of the pole and other strung on or encircled articles is avoided.

Yet a further object of the invention is to provide a structure as above, further characterized by the provision of a flexible security line having a free end, capable of being removed from the pole, and said free end carries a portion of a locking mechanism positioned and designed for positive, controlled, releasable locking engagement with a second portion of said locking mechanism provided within the pole grip.

These and other objects of the present invention will become apparent to those skilled in the art from the following detailed description, showing the contemplated novel construction, combination, and arrangement of parts as herein described, and more particularly defined by the appended claims, it being understood that such changes in the precise embodiments of the herein disclosed invention are meant to be included as come within the scope of the claims except insofar as precluded by the prior art.

BRIEF DESCRIPTION OF DRAWINGS

The accompanying drawings illustrate complete preferred embodiments of the present invention according to the best mode presently devised for the practical application of the principles thereof, and in which:

FIG. **1** is a fragmentary perspective view of a ski pole incorporating the double locking system of the present invention;

FIG. **2** is a somewhat schematic view illustrating the manner in which the locking system of the present invention is used to secure skis and ski poles to each other and to an anchoring location;

FIG. **3** is a fragmentary, exploded pictorial perspective view of the embodiment of the present invention shown in FIG. **1**;

FIG. **4** is a fragmentary cross-sectional view taken along line **4—4** of FIG. **1** showing the double locking systems of the present invention when they are in repose and the ski pole is in a mode ready for skiing;

FIG. **5** is a cross-sectional view similar to FIG. **4** showing the first locking mechanism exposed for unlocking;

FIG. **6** is a cross-sectional view similar to FIGS. **4** and **5** showing the second locking mechanism activated for release of the security line from the ski pole grip;

FIG. **7** is a fragmentary perspective view of the locking system of the present invention with the security line formed in a loop and about to be secured in a ski equipment securing position, such as that illustrated in FIG. **2**.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now in detail to the illustrative embodiments depicted in the accompanying drawings, there is shown in FIG. **2** a pair of skis **10** and a pair of ski poles **12** and **14** secured to a fixed ski rack by means of a flexible security line **18** in operative locking relation according to the present invention. Pole **14** provides in combination the security line-locking mechanisms and ski pole of the present invention.

In the embodiment shown, ski pole **14** is provided with a cutlass type handle or grip **20** at its upper end, a hollow body shaft or tube **22**, and a conventional lower end which includes basket **24** for controlling the penetration of shaft **22** into the snow during skiing. Grip **20** has been designed in accordance with this embodiment of the present invention to provide locking mechanism body cavity **26**.

The details of the locking mechanisms of the present invention can be most readily understood by referring to FIGS. **3** through **6**. In the preferred embodiment shown, lock body supporting basket **28** is designed to be secured within cavity **26**, for example by means of lock body screw **32**, which passes through hole **34** of basket **28** and into screw hole **36** at the bottom of cavity **26**. As will be appreciated hereinafter, connecting lock body screw **32** is not externally visible or accessible, when the locking mechanism of the present invention is in a locked position as shown in FIGS. **4** and **5** and therefore cannot be easily tampered with.

Lock body supporting basket **28** carries vertical key guiding support wall **38** having key opening **40** therethrough and its connected tooth slot **42**. The inner surfaces of the upper portions of the opposed side walls of basket **28** each include a sliding door groove **44**. Grooves **44** face inwardly and are opposed to one another. Door grooves **44** extend along substantially the entire width of each side wall, each terminating at stop **45**. Each side wall of basket **28** also carries a pair of key activator slide grooves **46** at the bottom of the sidewalls of basket **28**, said slide grooves **46** facing inwardly and in opposition to one another. Lower slide grooves **46** begin at the left side of support wall **38** and extend laterally to the open left end of the supporting basket side walls.

In this preferred embodiment, a standard cylindrical type combination lock **48** is suitable for use. In this

instance, lock **48** is illustrated as having three lock rings supported on a cylindrical centrally open barrel **50**. Lock **48** is of standard construction and when each of the three lock rings is arranged in the "unlocked" combination, it comes into an "open" position in which tooth-slot **52** of each of the three lock rings (only outermost shown) is in alignment, and in which tooth-slot **52** is also positioned to coincide and be in alignment with tooth-slot **42** carried by support wall **38**.

Key activator **54** carrying key **56** bearing teeth **58** and having at its lower edge a pair of outwardly extending slides **60** is provided. The upper surface of key activator **54** defines a recess at the bottom of which is cam surface **62** which terminates at its left side in groove **64**. As illustrated, key activator slides **60** are dimensioned to slidingly fit within lower slide grooves **46**, while key **56** and teeth **58** are carried in a position to enter and slide within key opening **40** and tooth-slot **42**, respectively, of wall **38**. In a similar manner, as detailed below, key **56** and teeth **58** are also located to enter and reside within the open center of barrel **50** and tooth-slot **52**, respectively, of lock **48**.

Locking and key activating door **66** including door slides **68** on each side and lower cam following tab **72** is provided. Door **66** is designed and dimensioned so that its slides **68** may be placed into and slid along upper grooves **44** of supporting basket **28**. When key activator **54** is positioned totally within basket **28** with its slides **60** in lower grooves **46**, and when door **66** is positioned to the right within upper grooves **44**, as shown in FIG. **4**, then lateral leftwards movement of door **66** will cause its lower cam following tab **72** to contact and travel along cam **62** until it reaches, snaps into and is stopped at groove **64** when in an extreme left position, as shown in FIG. **5**.

Grip **20** defines at its upper surface, adjacent to cavity **26**, substantially rectangular keeper retainer cavity **74** and adjacent semi-circular channel **76**. Spring **78** is secured at the bottom of cavity **74**. Keeper **80**, also having a substantially rectangular configuration but for curved channel **82** is firmly attached to the top of flexible security line **18**. One lateral surface of keeper **80** carries a boss which includes an opening to key receiving cavity **84**. Flexible security line **18** is firmly secured to keeper **80** and extends from keeper **78** through channel **86** of grip **20** into hollow pole shaft **22**. Security line **18** terminates at security stop **88** which is firmly secured to its lower end. Security stop **88** is dimensioned so that it is small enough to move easily through pole shaft **22** and channel **86**, but so that it is too large to enter cavity **74**. Thus, stop **88** prevents the removal of flexible security line **18** from grip **20** through cavity **74**.

When the elements set forth in FIG. **3** are combined, as detailed in FIG. **4**, lock **48** will reside at the right side of support wall **38** of basket **28**. Basket **28** will be secured within recess **26** by means of screw **32** passing through holes **34** and **36**. Slides **60** of key activator **54** will be positioned within grooves **46** of basket **28** and key **56** and teeth **58** will be located to pass through key opening **40** and tooth-slot **42**, respectively, and into the central opening of barrel **50** of lock **48** with teeth **58** initially in alignment with tooth-slot **52** of all three lock rings. Lock and key activating door **66** will be slidingly located within upper grooves **44** of basket **28** by means of slides **68**. When keeper **80** is inserted into keeper cavity **74**, depressing spring **78**, and key activator **54** is positioned fully to the right, as shown in FIG. **4**, the distal end of key **56** will engage key receiving cavity **84** of keeper **80** so that keeper **80** is positively locked into cavity **74**.

In operation, keeper **80** can be further secured against movement out of cavity **74** by rotating the rings of lock **48** into a locked relationship so that tooth-slot **52** is blocked at one or more ring positions. When the lock rings are so rotated, lock **48** will secure teeth **58**, attached key **56**, and attached key activator **54** against leftward lateral movement away from keeper **80**. When so secured, the distal end of key **56** will be locked within keeper cavity **74**, thus securing and double locking keeper **80** against movement out of keeper cavity **74**. When cylinder lock **48** has been so engaged, it will also secure key **56** and attached key activator **54** so that they cannot then be moved laterally to the left through basket **28**.

Keeper **80** will be released from the locked relationship shown in FIGS. **1** and **4**, and used to secure ski equipment as shown in FIG. **2**, by the following sequence of double unlocking and double relocking steps. First, starting with the arrangement shown in FIG. **4**, lock and key activator door **66** will be slid laterally to the left until tab **72** snaps into and becomes engaged within groove **64** at the upper left surface of key activator cam **62**, at which point the lateral motion of activator door **66** and tab **72** connected key activator **54** will be stopped, as shown in FIG. **5**, by stop **45** (see FIG. **3**). When door **68** is in this "open" position, it will allow access to the combination lock rings of lock **48** so that the combination lock rings of lock **48** may be sequenced to "open". When the lock combination is so sequenced, tooth-slot **52** will be aligned in each ring cylinder of the lock as well as with teeth **58** of key **56** and toothslot **42** of wall **38**. However, after this unlocking sequence is completed, nothing will occur to release keeper **80** from handle **20** until the second lock is released.

The second lock is released after lock **48** is sequenced open by now again exerting lateral leftwards force upon activator door **66**. Due to the placement of tab **72** within groove **64** and in view of the now unblocked open alignment of tooth-slot **42**, tooth-slots **52** and key teeth **58**, additional lateral leftwards movement of activating door **66** is now possible. This additional lateral leftwards movement of door **66** will now cause tab **72** connected key activator **54** and attached key **56** to also be moved laterally to the left. When the distal end of key **56** is moved sufficiently to the left so that it is removed from cavity **84** of keeper **80**, then spring **78** will urge keeper **80** out of cavity **74**, as shown in FIG. **6**.

The ski security system of the present invention is now in the mode for locking and securing skis or other items when keeper **80** has been released from cavity **74**, as shown in FIG. **6**. At this time, skis **10** and ski pole **12** will typically be placed in a substantially vertical position against a fixed anchor support, such as a rack, as shown in FIG. **2**. Now, with keeper **80** released from pole **14**, keeper **80** and a length of attached security line **18** can be withdrawn from pole **14**, wrapped about or through skis **10**, the other pole **12** and the fixed support rack. Referring to FIG. **7**, keeper **80** will then be returned to the vicinity of cavity **74**, but inverted so that what had been the top of keeper **80** when secured within cavity **74** in FIGS. **1** and **4** becomes the bottom or first portion of keeper **80** to approach and enter cavity **74**. As inverted keeper **80** is inserted into cavity **74**, the portion of security line **18** which is then located in cavity **74** will be positioned within semi-circular channel **76** and also bracketted by curved channel **82** of

keeper **80**. When keeper **80** is fully inserted within cavity **74**, channels **76** and **82** will oppose one another and define a substantially circular groove to accommodate the portion of security line **18** extending through cavity **74**. Also, when keeper **80** is fully inserted into cavity **74**, spring **78** will be compressed.

Now, with keeper **80** fully inserted within cavity **74** and spring **78** compressed, the double locking security sequence will be initiated. The double locking sequence is substantially the reverse of the unlocking sequence already described. First, activator door **66** is moved laterally to the right. Due to the placement of tab **74** within groove **64** of key activator **54**, movement of door **66** to the right will cause key activator **54** and attached key **56** to also be moved laterally to the right. When the distal end of key **56** is moved to the right a sufficient distance, it will enter and engage cavity **84** of keeper **80**, thus mechanically securing keeper **80** within cavity **74** of grip **20**, as shown in FIG. **2**. This first locking sequence and arrangement is substantially analogous to the locking arrangement shown in FIG. **5**, with the exception that the keeper is inverted and a loop of security line **18** is external to pole **14**. Then, with door **66** still open, the lock cylinders are spun out of the "open" combination to provide the second locking sequence which secures key **56** from movement out of cavity **84**. Now, additional lateral rightwards movement of door **66** will cause cylindrical combination lock **48** to be covered and protected, in much the same manner as is illustrated in FIG. **4**, with the exception that the keeper is inverted and a loop of security line **18** is external to pole **14**. Skis **10** and poles **12** and **14** will now be securely locked to the rack, for example as shown in FIG. **2**, and will remain so locked until the user opens door **66**, redials the correct lock combination to open the first lock, and then moves key activator **54** to the left to open the second lock and release keeper **80** from cavity **74**.

The double locking mechanism of the present invention will allow the user to unlock the first (combination) lock without releasing the secured skis and poles from their anchor. Only after the second lock mechanism has been activated, will the security system be released. This will allow the user to secure or balance the equipment before the security line is released from keeper cavity **74**, thus assuring that the equipment will not accidentally fall and be damaged or injure the user.

This double locking mechanism will also make "cracking" of the combination lock sequence more difficult. A would-be thief will be unsuccessful in breaking the code merely by sequencing numbers and watching for the lock to fall open when the right sequence is found. Rather, after each combination sequence, the second lock will have to be manipulated to check the condition of the combination lock. This tedious second step, or the lack of knowledge of this second operation, will make theft through tampering more difficult.

In use, the weight of a pole embodying the security system of the present invention will be on the order of only about three to five ounces greater than that of the other pole with which it is paired. While the other pole may be weighted to offset this weight differential, the imbalance is so minor that it will go practically unnoticed in use.

While in use as a ski pole, rather than as a security system, both locks of pole **14** need not be engaged. For example, once key **56** has been inserted into cavity **84** of keeper **80**, the combination lock does not have to be engaged. Nevertheless, keeper **80** will be mechanically secured while the user is skiing, and can then be quickly and readily released without operating the combination when it is needed for use as a ski security system.

Alternative embodiments which practice the teaching of the present invention, although not shown herein, may be readily provided by one skilled in the art. For example, the keeper mechanism may be located to the left of the grip, and the locking mechanisms to the right. In a similar modification, the locking mechanism may be located within the lower body portion of grip **20** with the keeper being inserted either as taught, or into the front of the grip. Reversal of parts in the mechanical locking mechanism is readily achieved, as it would be relatively simple to have the key operate as a female to interact with a keeper which provides a male connecting member.

While a cutlass style grip **20** has been shown, a linear handle grip, with or without a safety strap, may also be used in the practice of the present invention. The locking mechanisms have been shown as supported and positioned within the handle by separate basket structure **28**. It is apparent that the same positioning and support functions can be provided as an integral part of the handle itself. Cam surface **62** carried by key activator **54** is shown as being a ramp rising to the left. However, in practice, cam surface **62** will be operative to perform its desired function whether it rises to the left, rises to the right, rises on both the left and the right, or is flat.

The choice of materials for use in the practice of the present invention will vary widely, with many materials being suitable for its operation and implementation. In preferred embodiments, a standard, hollow, lightweight metal ski pole shaft and its attached basket will be modified for use in the practice of the present invention by the addition of a grip designed to contain the double locking mechanism and security line system taught herein. For ease of manufacture, the grip will most often be of molded lightweight plastic, while the key locking mechanism and keeper may be of molded or machined plastic or of metal. The structure is not material limited. As has been previously indicated, combination lock **48** disclosed herein is of a standard variety now readily available. Other combination locks or even key activated locks may be readily substituted for lock **48**. Also as previously indicated, the flexible security line **18** will normally be a braided or twined steel cable, although any material which is resistant to breaking and cutting may be used. The length of the security line may vary considerably, and is not critical. The maximum length of the line will normally be limited by the length of the ski pole, say in the range of about 36 to about 50 inches, although a bobbin arrangement within the ski pole shaft may allow for wound line of almost any length. The minimum length of the security line will be dictated by its function, and will seldom be less than about 20 inches if it is intended to secure a pair of skis around an anchoring element.

While the modifications to the ski pole grip of the present invention are rather unobtrusive, they will be sufficiently noticeable to the user so that they will provide a means by which he can readily identify a right-hand pole from a lefthand pole, if the poles are so designed, thus providing an additional benefit to the user.

It has thus been shown that the present invention provides a simple, yet effective device for securing and locking ski equipment, including skis and ski poles, to each other and to a fixed anchor. The preferred embodi-

ment has shown how the security system is provided as a lock mechanism, a security line and ski pole combination in which the lock mechanism includes a double locking system which prevents release until both a first and a second lock have been positively activated by the user. Such a combination of a first lock, a second lock, a security line and a ski pole are characterized by economy of manufacture, simplicity of operation, and controlled release. It is further seen that the preferred embodiment of the present invention provides, in combination a ski pole in which a security line is carried, and in which a first lock of the combination type is integrated with a second mechanical lock. In such a combination, both locks are incorporated in the pole handle or grip of the ski pole and available for easy access and positive controlled release of the security line without a separate key. Furthermore, the present invention provides a structure as hereinabove characterized, that includes a flexible security line which is normally held in the shaft of the pole and which is capable of forming a loop by which the pole and other articles strung on or encircled within the loop may be connected to a fixed anchor in order that falling, movement and theft of the pole and other strung on or encircled articles is avoided. In such an embodiment, the flexible security line has a free end capable of being removed from the pole, and said free end carries a portion of a locking mechanism positioned and designed for positive, controlled, releasable locking engagement with a second portion of said locking mechanism provided within the pole grip.

While the locking mechanism of the present invention has been shown as integrated with and part of a ski pole, and for use as a ski security system, it is to be understood that the double locking security line mechanism of the present invention may have other utility and may be incorporated into other structures, particularly into some other shaft or tube type of a structure, such as a bicycle frame.

While the invention has been particularly shown and described with reference to preferred embodiments thereof, it will be further understood by those skilled in the art that the foregoing and other modifications or equivalent changes in form and details may be made therein without departing from the spirit and scope of the invention as claimed, except as precluded by the prior art.

What is claimed is:

1. A combined ski pole and double locking security system device wherein the ski pole includes a longitudinal shaft having a hollow interior and a handle connected to the shaft, wherein the improvement comprises in combination:

(a) a passageway through the handle said passageway extending from an exterior surface opening of the handle to connect with the hollow interior of the shaft;

(b) a flexible security line having a first end and a second end, said security line being movably disposed within said handle passage and the hollow interior of the pole shaft with said first end of said security line being located in the vicinity of the exterior surface opening of said handle passageway;

(c) first lock means having at least two portions, said first portion of said first lock means being located substantially within the handle and including a protrusion, while said second portion of said first lock means is connected to said security line in the vicinity of its said first end and carries means for releasably connecting with said protrusion included in said first portion, said first portion of said first lock means also being located to releasably connect with said second portion of said first lock means, said first lock means further including means for actuating said first lock actuating means which lock actuating means are located to be activated from the exterior of the handle; and

(d) second lock means, said second lock means also located substantially within the handle, said second lock means being in operative association with said first lock means to control the connection and release of said first and second portions of said first lock means; whereby, when said second lock means allows the release of said first and second portions of said first lock means and when further said first portion is released from said second portion of said first lock means, said second portion of said first lock means and said connected security line can be moved from and through said handle passageway to the exterior of the handle, and thence, with a portion of said security line still at the exterior of the handle, said second portion of said first lock means can be returned to said handle passageway for releasable connection with said first portion of said first lock means.

2. The security system of claim **1** wherein said protrusion includes a key, said key being integral with said first lock means and substantially permanently carried as a portion of said security system.

3. The security system of claim **2** wherein said means for releasably connecting with said protrusion is a keeper defining an opening for releasably receiving said key, said keeper being connected at said first end of said security line and located in the vicinity of the exterior surface opening of said handle passage.

4. The security system of claim **1** wherein said means for releasably connecting with said protrusion is a keeper defining an opening for releasably receiving said protrusion.

5. The security system of claim **1** wherein said second lock means is of a combination type.

6. The security system of claim **5** wherein said combination lock has a hollow blockable center, wherein said protrusion is a key, and wherein said key extends through said hollow center of said combination lock, whereby it is blocked or released by said blockable center.

7. The security system of claim **6** wherein said combination lock can be operated from the exterior of the handle.

8. The security system of claim **7** wherein door means are provided to open and close access to said combination lock.

9. The security system of claim **8** wherein said door means is connected to and can serve as a means for moving said key through said hollow center of said combination lock and into and out of said means for releasably connecting with said key.

10. The security system of claim **9** wherein said means for releasably connecting with said key is a keeper defining an opening for releasably connecting with said key.

11. The security system of claim **10** wherein said security line has a stop connected in the vicinity of its said second end and spaced from said keeper, said stop being dimensioned to travel with said security line through the pole shaft, but to be blocked within said handle passage, whereby said second end of said security line cannot be readily removed from said handle.

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